



AstrA

Institute of Ecology, Tallinn University

1st milestone activity

Apr 3-5, 2006

Potsdam

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Achievements of the Project



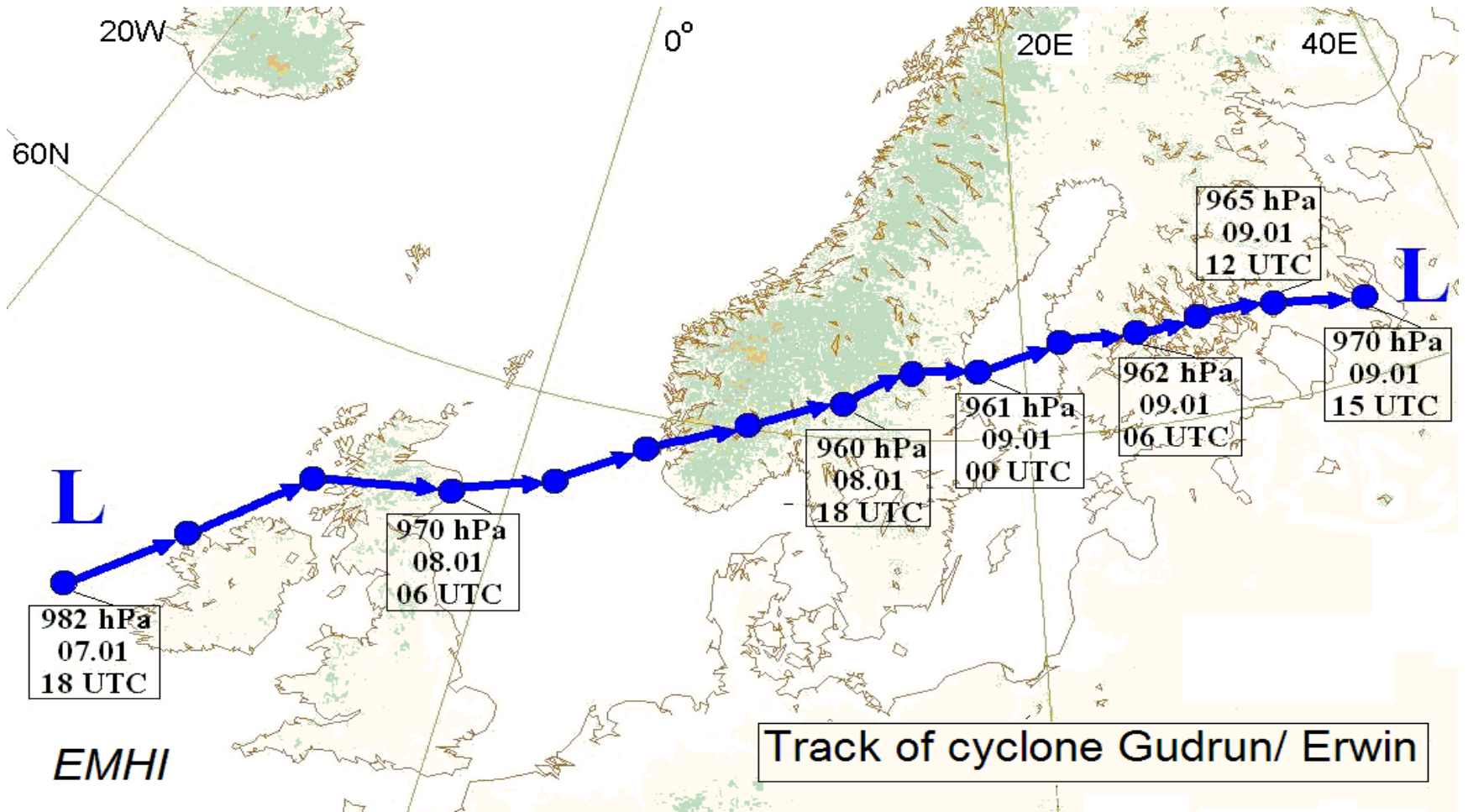
- ≡ A comprehensive report of the 9th January 2005 storm as an extreme climatic event for our region was compiled.
- ≡ All necessary equipment for detailed fieldwork in the coming summer was purchased.
- ≡ A good specialist with long-time experience in coastal zone planning with assistants was incorporated to the team dealing with coastal research.
- ≡ Three scientific papers were written on the topics related to the ASTRA project.

Major Activities

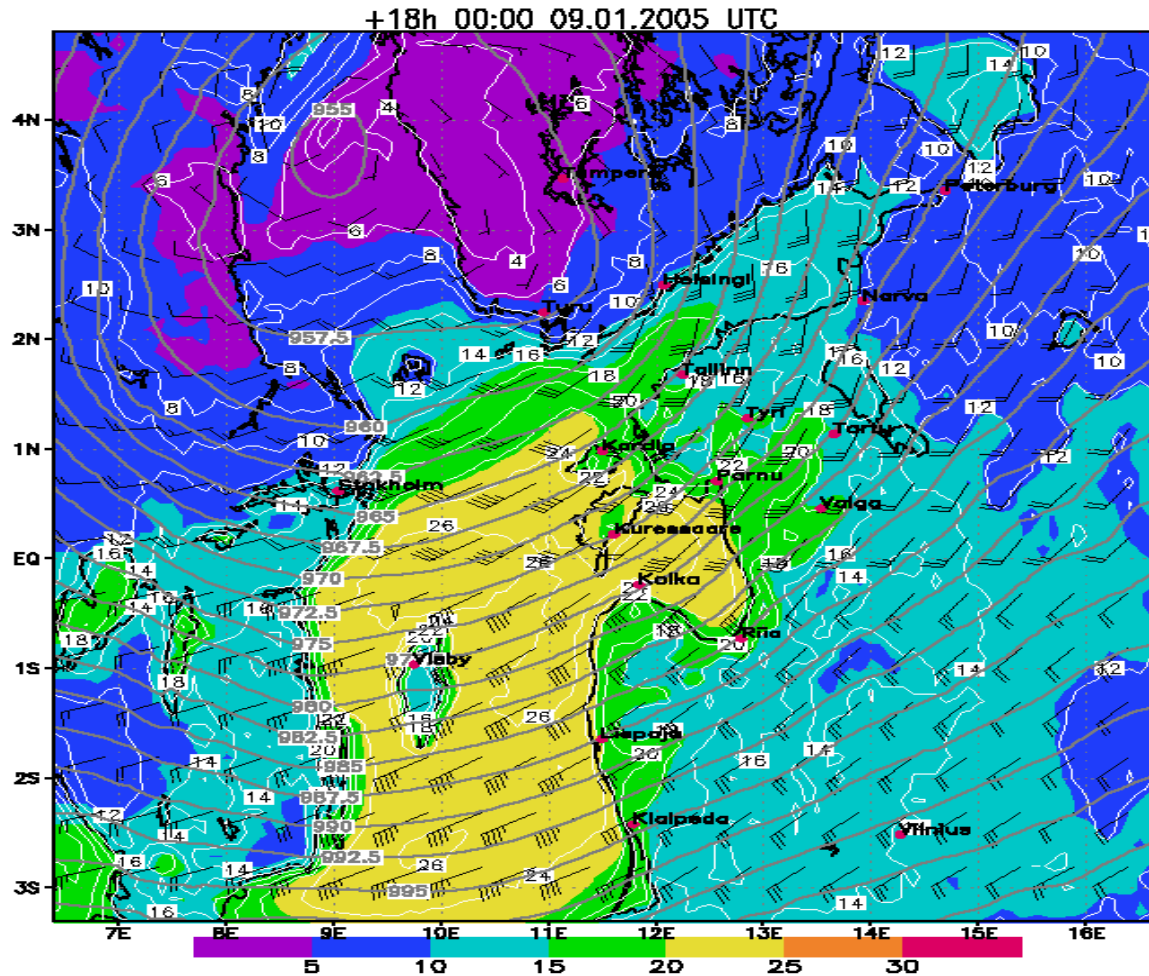
- ≡ The kick-off meeting of our team was held in Pärnu on 14 November 2005. The main aims of the ASTRA project, structure of the consortium, schedule and milestones of the project were introduced.
- ≡ Detailed activity plan was worked out.
- ≡ The leaflets of the ASTRA project were distributed to major institutions interested in coastal zone studies.
- ≡ Four specialists from different institutions were employed by the Institute of Ecology to compile the 1st report on January 2005 storm.

- ≡ Detailed analysis of the winter storm on 8-9 January 2005 impacts on the Estonian coastal areas was carried out. Meteorological analysis of the observation data and hydrodynamic modelling of the event were implemented. Much attention was given to the shore processes, shoreline and beach profiles dynamics. All available data on economic consequences of the storm were collected and presented in the 1st report.
- ≡ The report is accessible on the following URL: <http://www.tlu.ee/geo2/astra/> and there is a direct link on the ASTRA website.

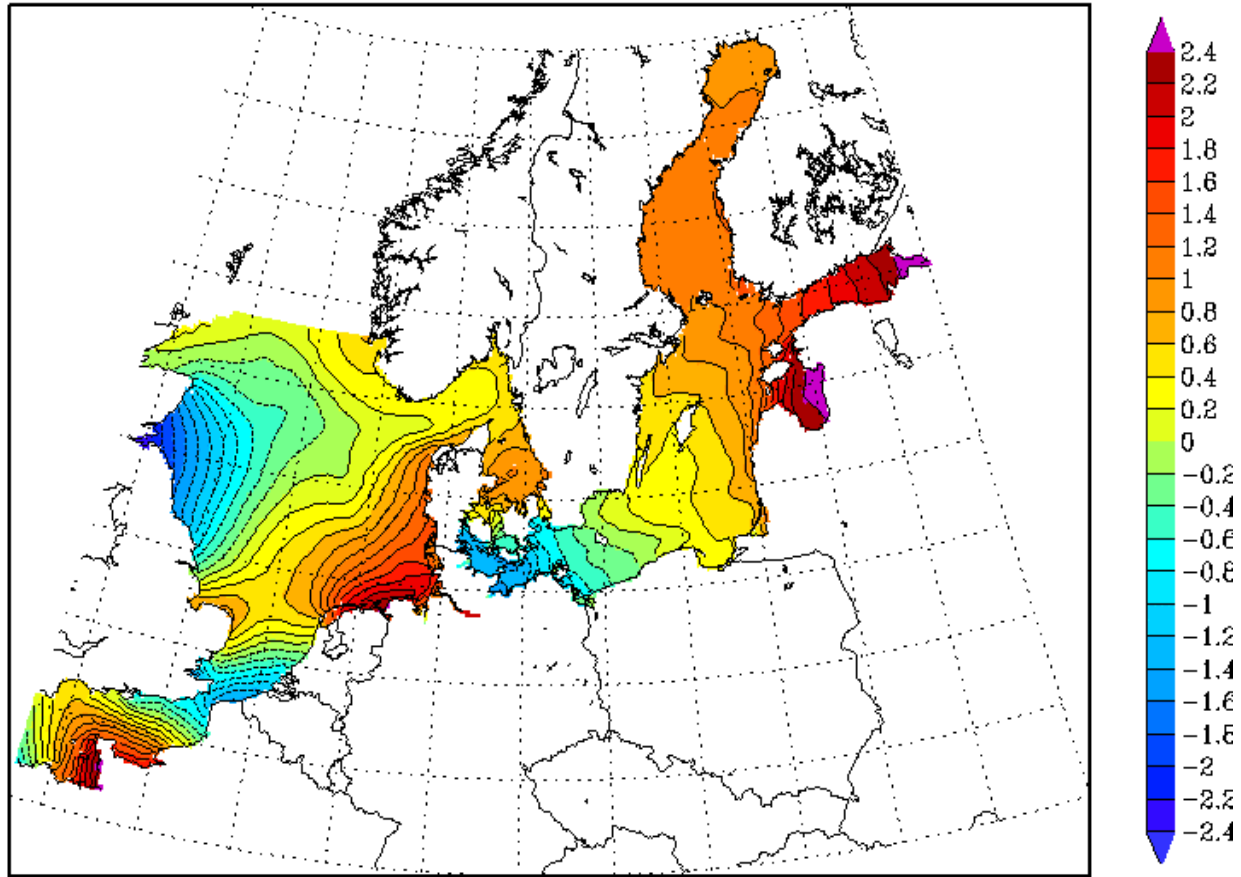
Cyclone track and SLP



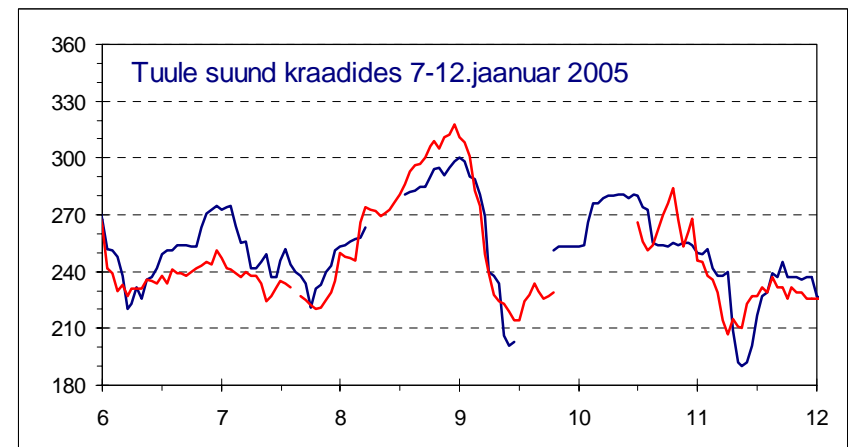
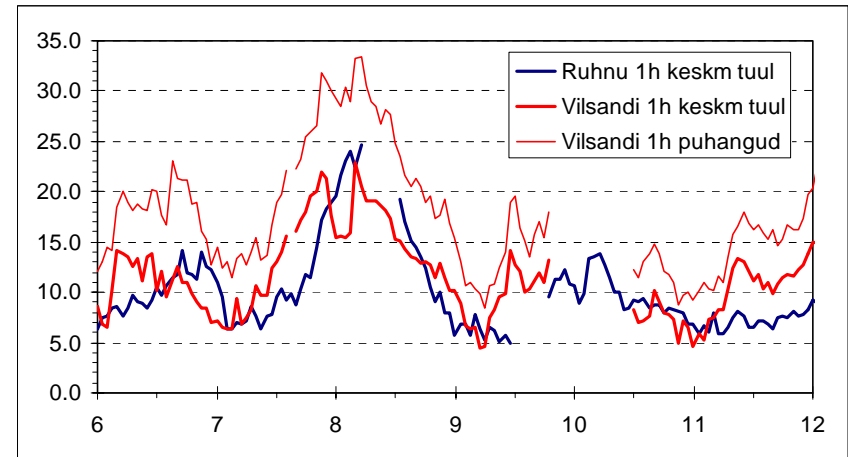
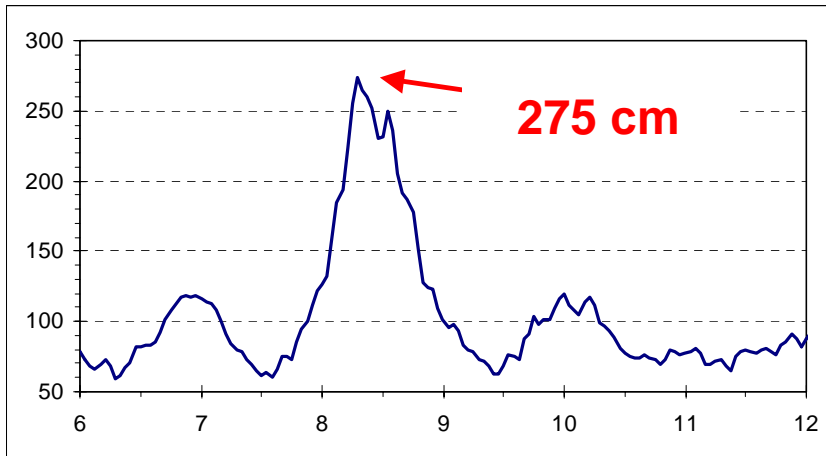
HIRLAM Wind Forecast



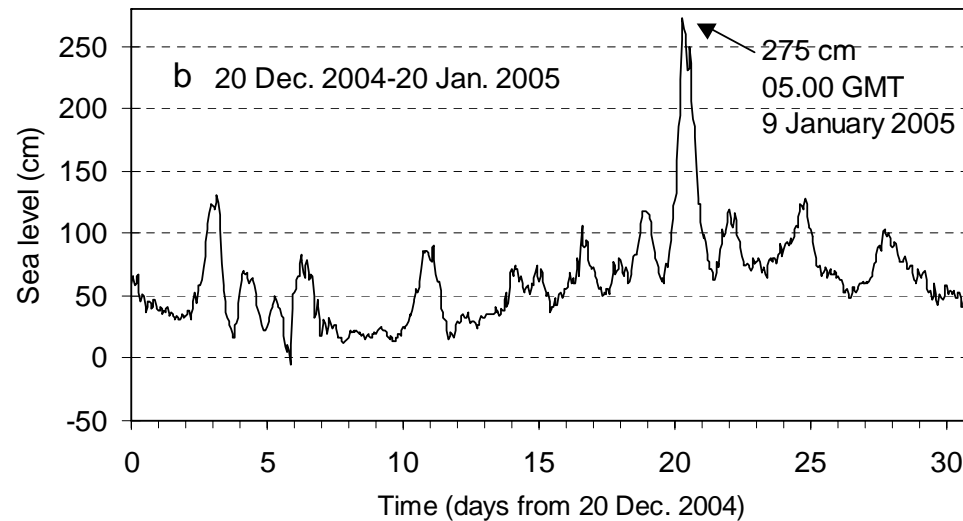
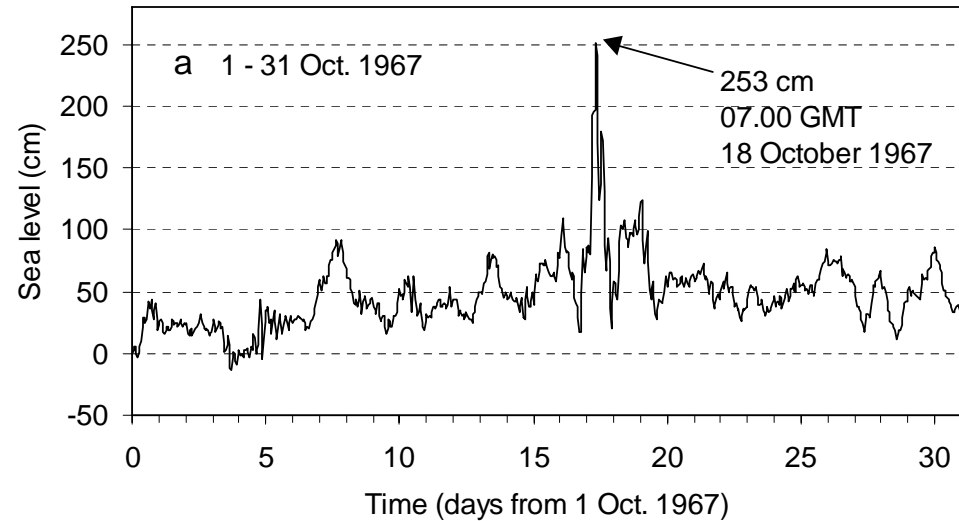
Sea level (m): 2005 JAN 09 at 07z



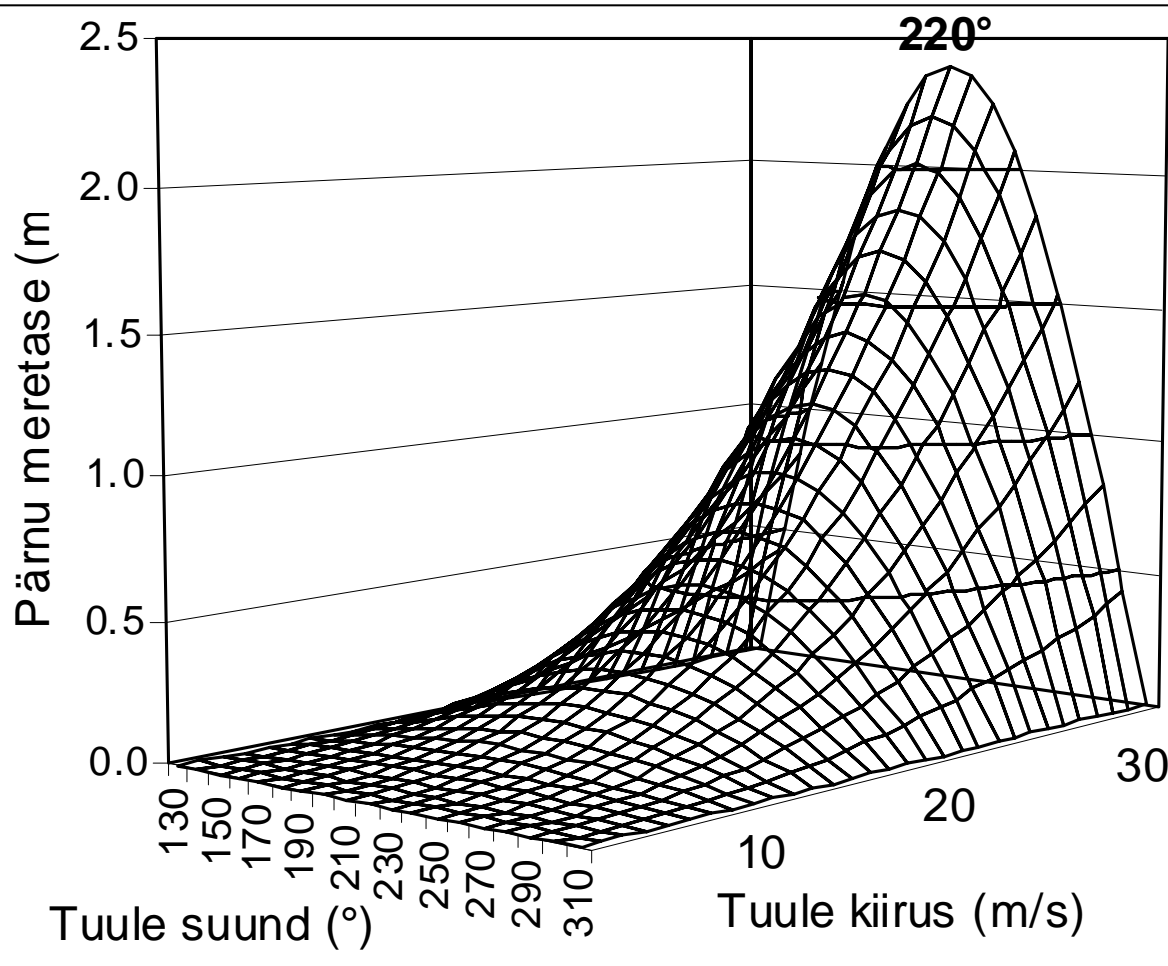
Pärnu Sea Level - Vilsandi and Ruhnu Wind Speed and Direction



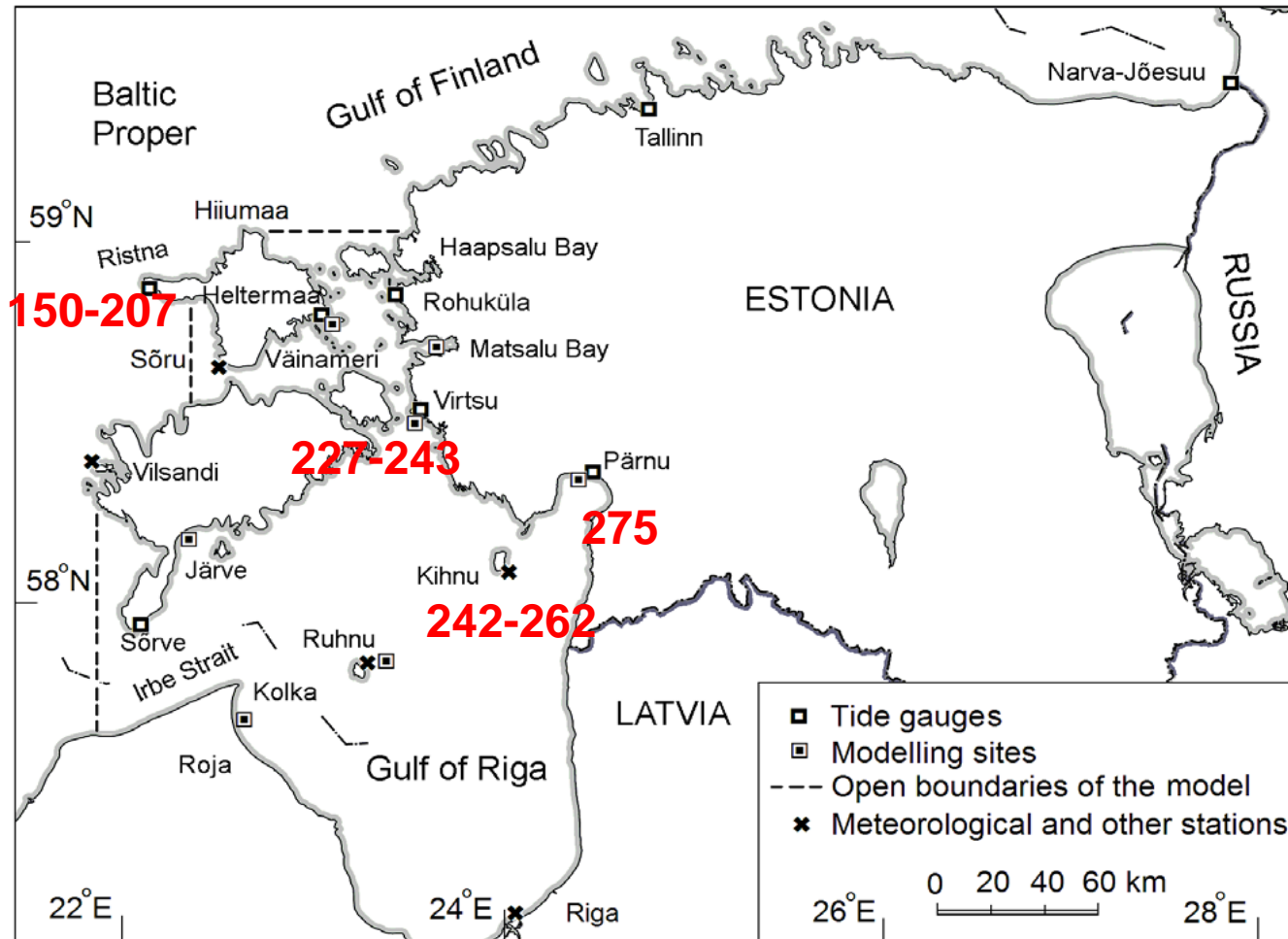
Comparison of Sea Levels in 1967 and 2005 Storm Events



Dependence of sea level height at Pärnu from wind speed and direction



Sea level and surge statistics in Estonia



The Results on Sörve Peninsula



13/04/06

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Kiipsaare Before and After the Storm



Coastal Destruction at Järve Beach, Saaremaa Island



13/04/06

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- ☞ Manuscripts of three scientific papers were prepared and one performance in the Estonian TV on January 2005 storm impact on Saaremaa Island was carried out. K. Orviku delivered a lecture to the people of the Saaremaa Marine Cultural Society “Salava” in October 2005 on the problems of protecting the seashores against increased erosion.
- ☞ The manuscripts of the papers are as follows:
 - Suursaar, Ü., Kullas, T., Otsmann, M, Saaremäe, I., Kuik, J. and Merilain, M. Cyclone Gudrun in January 2005 and modelling its hydrodynamic consequences in the Estonian coastal waters. Manuscript accepted for publishing in Boreal Environment Research 10: ...Helsinki, 2005. Point 2.1
 - Tõnisson, H., Jaagus, J., Kont, A., Orviku, K., Rivis, R. and Suursaar, Ü. Coastal damages on Saaremaa Island, Estonia, caused by the extreme storm and flooding on January, 9 2005. Manuscript was submitted for publishing in Journal of Coastal Research in December 2005.
 - Orviku, K. Mererand vajab paremat kaitset. In: Eesti Geograafia Seltsi aastaraamat 35, Eesti Entsüklopeediakirjastus, Tallinn 2005, 111-129 (in Estonian with summation in English).

- ≡ A detailed work plan for the next two years was elaborated with the aim of starting ICZM in Estonia. Saaremaa Island will be the case study area. The last chapter of the 1st milestone report gives a brief overview of the current status of coastal zone management in Estonia. Some problems concerning regional planning and developing adaptation policies, particularly on the background of the severe storm in January 2005, are considered.

Conclusions

- ≡ The 1st milestone of the ASTRA project has been covered successfully and in good accordance with the detailed work plan.
- ≡ The most complicated part of the project – the financial report – was also carried out successfully and was presented to the lead partner in time. One disturbing deviation considering the financial side of the project was that due to late start of the activity (only the last two months of 2005) considerably small amount of money was spent.

Thank you!



Are Kont
C.R.Jakobsoni 34
51005 Tartu, Estonia

Telephone: +372 7421936

Telefax: -

Email: are@zbi.ee

URL: <http://www.tlu.ee/geo2/astra/>